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Andre [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). OP DE BEECK, Marc, J., R. [BE/BE]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

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(74) Agent: GRAVENDEEL, Cornelis; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

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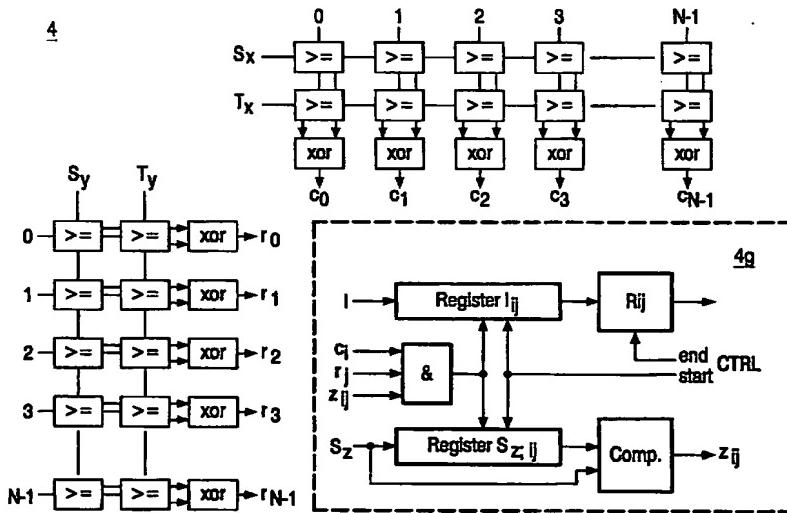
(71) Applicant (*for all designated States except US*): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): REDERT, Peter-

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(54) Title: THREE-DIMENSIONAL DISPLAY



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(57) Abstract: The invention provides a method for visualisation of a 3-dimensional (3-D) scene model of a 3-D image, with a 3-D display plane comprising 3-D pixels by emitting and/or transmitting light into certain directions by said 3-D pixels, thus visualising 3-D scene points. The calculation of the 3-D image is provided such that said 3-D scene model is converted into a plurality of 3-D scene points, said 3-D scene points are fed at least partially to at least one of said 3-D pixels, said at least one 3-D pixel calculates its contribution to the visualisation of a 3-D scene point.



SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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B. FIELDS SEARCHED

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Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 344 837 B1 (GELSEY ANDREW H) 5 February 2002 (2002-02-05) column 3, line 25 - column 9, line 35; figures 1-15	1-4, 11-14
A	WO 99/05559 A (KONINKLIJKE PHILIPS ELECTRONICS N.V; PHILIPS AB) 4 February 1999 (1999-02-04) abstract	1,11
A	US 6 154 855 A (NORMAN ET AL) 28 November 2000 (2000-11-28) abstract column 7, line 24 - column 9, line 22	5-10,15

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax (+31-70) 340-3016

Authorized officer

Van Roost, L

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Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 6344837	B1	05-02-2002	AU WO	5966301 A 0199402 A2		02-01-2002 27-12-2001
WO 9905559	A	04-02-1999	EP WO JP US	0934546 A1 9905559 A1 2001501073 T 6801243 B1		11-08-1999 04-02-1999 23-01-2001 05-10-2004
US 6154855	A	28-11-2000	US US US US US AU AU AU CA WO CN DE DE DE EP EP EP EP ES JP	6038682 A .5748872 A 2002095617 A1 2004015735 A1 6408402 B1 700629 B2 1944795 A 2362999 A 2185787 A1 9526001 A1 1148895 A ,C 69519426 D1 69519426 T2 69529856 D1 1037279 A2 1046994 A2 1037149 A2 1191457 A2 0752132 A1 2153891 T3 9510563 T		14-03-2000 05-05-1998 18-07-2002 22-01-2004 18-06-2002 07-01-1999 09-10-1995 26-08-1999 28-09-1995 28-09-1995 30-04-1997 21-12-2000 21-06-2001 10-04-2003 20-09-2000 25-10-2000 20-09-2000 27-03-2002 08-01-1997 16-03-2001 21-10-1997